

## **DETAILED ACTION**

### ***Introduction***

1. Applicants' amendments and remarks filed on 2/1/2010 have been entered. Claims 1, 2, 4-6 and 8-15 are active.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. In response to the amendments, the grounds of rejection have been updated as set forth below. Rejections not maintained are withdrawn.

### ***Rejections Based on Prior Art***

4. Claims 1, 2 and 8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 10-025460 (machine translation).

JP '460 relates to an acrylic pressure-sensitive adhesive composition. The composition comprises block copolymer represented by the formula (A-B)<sub>a</sub>-A, wherein A block is a vinyl polymer, B block is a polymer of a 1-12C alkyl (meth)acrylate, and a = 1 to 10. For example, an A-B-A block copolymer has A blocks of n-butyl acrylate and B block of methyl methacrylate [abstract]. The A block has sufficient cohesive force based on the phase structure by false bridge formation by making into the range of 50-3000Å. Furthermore, by heating, the above-mentioned false bridge formation collapses, and fuses reversibly, so as the coating of the adhesive can be carried out [0055]. The adhesive can be used to form a pressure sensitive adhesive sheet, etc., on

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one side or both sides of a base material, such as paper, etc. [0058 and 0060]. The binder (adhesive) layer can be hot melt coated by an extruder onto the base material [0059].

For claims 1, 2 and 8, JP '460's teaching in [0055]: "A block has sufficient cohesive force based on the phase structure by false bridge formation.... by heating, the above-mentioned false bridge formation collapses, and fuses reversibly, so as the coating of the adhesive can be carried out" is interpreted as meaning at ambient condition, the B block solidifies (fuses) as a bridge between A block to provide cohesive strength (force). The B block melts (collapses) upon heating during coating process of the block copolymer, and reversibly solidifies upon cooling to ambient temperature. Clearly, JP '460 teaches the concept of immiscible phase separation between adhesive A block and solid B block in dispersed phase for providing cohesive strength. JP '460 is silent about the glass transition temperatures ( $T_g$ ). However, workable glass transition temperature is deemed to be either anticipated, or obviously provided by practicing the invention of JP '460. Specifically, as evidenced by applicants' own specification that workable example of P(A) (A block) includes poly(n-butyl acrylate) (a polymer of acrylic esters with alkyl groups having 4 to 14 carbon atoms) [page 15], and P(B) (B block) includes poly(methyl methacrylate) [page 16], since JP '460 teaches pressure sensitive adhesive composition of block copolymer represented by the formula  $(A-B)_a-A$ , wherein A block is a vinyl polymer (P(A)), B block is a polymer of a 1-12C alkyl (meth)acrylate (P(B)), and  $a = 1$  to 10, JP '460 clearly encompasses the entire workable ranges of P(A) and P(B) chain lengths of the claimed invention, and nowhere have applicants suggested any range in the specification outside the ranges taught by JP '460. As such, the various properties of the claimed invention are deemed to be either anticipated, or obviously provided by JP '460, motivated by the desire to obtain required adhesive properties

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for various end uses. It should be noted that since JP '460 teaches a pressure sensitive adhesive, it necessarily requires a continuous matrix formed of A block, because it is the block providing required adhesiveness for end uses, whereas the B block merely forms bridges to provide cohesive strength to the adhesive phase formed of A block.

5. Claims 4, 5, 6 and 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-025460 [machine translation].

The teachings of prior art are again relied upon as set forth above.

For claims 4, 5 and 10, JP '460 is silent about the use of release layer and adhesion promoting primer layer. However, absence of any evidence to the contrary, the Official notice "these layers are common and well known" has been taken as admitted prior art. It would have been obvious to one of ordinary skill in the art to incorporate these layers in adhesive sheets formed from the adhesives of JP '460, motivated by the desire to improve the release property of individual adhesive sheets from a multilayered adhesive pad; and to enhance the adhesion between the adhesive layer and support, respectively.

For claims 6 and 12-15, JP '460 is silent about providing the pressure sensitive adhesive sheet in the form of a pad of plurality of adhesive sheets. However, absence of any evidence to the contrary, the Official notice "providing a plurality of adhesive sheets in the form of a pad of conveniently predetermined size is common and well known" has been taken as admitted prior art.

For claim 9, since JP '460 teaches the same chemistry of the binder (adhesive) composition, forming the layer by the same melt extrusion coating process [see specification page 9, line 34], and for the same end use (as an adhesive layer) as the claimed invention,

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workable refractive indices of the block copolymers are deemed to be either anticipated, or obviously provided by practicing the invention of prior art for the same end use (as an adhesive layer) by the same coating process.

For claim 11, the color of the paper support of an adhesive sheet product is deemed to be an obvious selection to one of ordinary skill in the art, motivated by the desire to provide a commercially acceptable color.

### ***Response to Arguments***

6. Applicants argue at Remarks pages 3-4:

“There is absolutely nothing in the abstract of JP 10-025460 that would teach or suggest that the blocks of the copolymer disclosed therein be tailored e.g. in terms of their chain lengths so as to make the blocks incompatible with each other so that the polymer blocks P(B) form a disperse phase in a continuous matrix of the polymer blocks P(A).”

However, JP ‘460’s teaching in [0055]: “A block has sufficient cohesive force based on the phase structure by false bridge formation.... by heating, the above-mentioned false bridge formation collapses, and fuses reversibly, so as the coating of the adhesive can be carried out” is interpreted as meaning at ambient condition, the B block solidifies (fuses) as a bridge between A block to provide cohesive strength (force). The B block melts (collapses) upon heating during coating process of the block copolymer, and reversibly solidifies upon cooling to ambient temperature. Clearly, JP ‘460 teaches the concept of immiscible phase separation between adhesive A block and solid B block in dispersed phase for providing cohesive strength. Further, since JP ‘460 teaches a pressure sensitive adhesive, it necessarily requires a continuous matrix formed of A block, because it is the block providing required adhesiveness for end uses, whereas

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the B block merely forms bridges to provide cohesive strength to the adhesive phase formed of A block. Applicants' argument to the contrary is unpersuasive.

Applicants' end use argument at page 5 directed to the withdrawn reasoning is moot.

Applicants argue at page 6:

“Applicants previously pointed out that the JP reference would, if anything, teach away from Applicants' novel adhesive coating. Paragraph [0010] of the reference plainly discloses that the object of the reference is to provide an acrylic binder that has excellent adhesiveness. This is exactly the opposite of the requirements for Applicants' adhesive, which must have a low bond strength in order to be useful for sticky notes. The presence of the domains in Applicants' adhesive coating which are non-adhesive is directly contrary to the teachings of the JP reference, which is directed towards stronger adhesives, not weaker adhesives.”

However, the amount of bond strength is absent from the claims. Further, applicants are reminded that “high” and “low” are relative terms, absent any standard for comparison, comparing the bond strength loosely with the term “high” and “low” is baseless.

Applicants argue at page 6:

“Applicants have pointed out that the adhesives of the JP reference would not be useful for sticky pads, because they, or the sheets of paper from the sticky pads made with them, would adhere to paper too strongly to be useful as note sheets that are easily removable from the papers to which they are attached, without harm.”

However, absent any credible evidentiary support, applicants' argument in vacuum is baseless and unpersuasive. Further, as evidenced by applicants' own specification that workable example of P(A) (A block) includes poly(n-butyl acrylate) (a polymer of acrylic esters with alkyl groups having 4 to 14 carbon atoms) [page 15], and P(B) (B block) includes poly(methyl methacrylate) [page 16], since JP '460 teaches pressure sensitive adhesive composition of block copolymer represented by the formula  $(A-B)_a-A$ , wherein A block is a vinyl polymer (P(A)), B block is a

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polymer of a 1-12C alkyl (meth)acrylate (P(B)), and  $a = 1$  to 10, JP '460 clearly encompasses the entire workable ranges of P(A) and P(B) chain lengths of the claimed invention, and nowhere have applicants suggested any range in the specification outside the ranges taught by JP '460. As such, the various properties of the claimed invention are deemed to be either anticipated, or obviously provided by JP '460, motivated by the desire to obtain required pressure sensitive adhesive properties for various end uses.

Applicants' arguments at pages 7-9 are moot for the reasons set forth in the updated grounds of rejection.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VICTOR S. CHANG whose telephone number is (571)272-1474. The examiner can normally be reached on 6:00 am - 4:00 pm, Tuesday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Victor S Chang/  
Primary Examiner, Art Unit 1783